

Center for Earth and Environmental Science: A Program of Excellence in Water Resources Research

Lenore P. Tedesco

Director, Center for Earth and Environmental Science
Associate Professor, Department of Earth Science

Meghna Babbar-Sebens

Assistant Professor, Department of Earth Science
School of Science
Indiana University – Purdue University Indianapolis

Abstract

Research and training into the impacts of environmental insults on water systems and the links between water resources and human health are critical needs nationally and internationally. IUPUI is in an excellent position to take on a leadership role in scholarship and teaching about water quality and health.

CEES has built its program and reputation around excellence in water resources and ecosystem restoration research. Key to our success has been the development of a research network founded on strong corporate, governmental and community partnerships and collaborations. This framework is strengthened by the mutual benefit realized by all partners and helps to support IUPUI's core value of community engagement as an urban research university.

In order to maximize the efficient use of resources, CEES is pursuing four strategic objectives in a manner that will further the universities goals of pursuing excellence in 1) research, scholarship and creative activity, 2) teaching and learning, and 3) civic engagement while also enhancing the resource base of the university.

The Center places the highest priority on four strategic initiatives:

1. The Center will engage in cutting-edge research and training for mixed agricultural and urban watersheds
2. Evaluate and assess watershed Best Management Practices targeting atrazine, nutrients and emerging contaminants and pathogens
3. Establish a K-12 technology based science education program in water, air and energy
4. Work with state agencies to identify watershed issues associated with Major Moves and other economic development initiatives, the standards to be applied and training needs

To this end, the Signature Center program in CEES has focused on building new collaborations with water resources and human health risks. Signature Center funding has provided for new faculty member Dr. Meghna Babbar-Sebens to join the Earth Sciences faculty as an Assistant Professor. Her research is focused on the modeling of water-borne contaminants, and decision support systems for management of water quality and associated ecological and human health risks. Dr. Babbar-Sebens research focuses on a) analysis of uncertainty when models are used to conduct spatially referenced systems-scale environmental assessments, b) incorporation of uncertainty analysis within decision support systems used for risk assessment and management, and c) optimization of water resources planning and management strategies for emergency response and water-borne disease prevention.